

REMARKS

Reconsideration and withdrawal of the rejections set forth in the Office Action dated October 17, 2005 are respectfully requested. Applicants petition the Commissioner for a 2-month extension of time: a separate petition accompanies this amendment.

I. Amendments

Claims 26 and 28 have been amended to clarify the claimed Markush group, as requested by the Examiner. No new matter or change in substance of the claim is added by this amendment, and the applicants submit that the amendment overcomes the rejections under 35 U.S.C. §112, second paragraph raised in the Office action mailed October 17, 2005.

II. Rejections under 35 U.S.C. §102(e)

Claims 19-26, 28 and 29 stand rejected under 35 U.S.C. §102(e) as anticipated by King *et al.* (U.S. Patent No. 5,633,724).

This rejection of these claims is respectfully traversed in view of the arguments below, and further in view of arguments presented by the Applicants in their responses submitted May 17, 2004 and July 29, 2005.

A. Analysis

The standard for lack of novelty, that is, for anticipation, is one of strict identity. To anticipate a claim for a patent, a single prior source must contain all its essential elements. M.P.E.P. § 2131.

Claim 19 recites an apparatus having, *inter alia*, the following element:

a discriminator means for discriminating PREs with a selected spectral signature from other light-scattering entities in the computer image, based on a comparison of a selected spectral characteristic of PREs and other light-

scattering entities in the field determined over said different spectral wavelengths.

As a basis for the claim rejections under 35 U.S.C. §102(e), the Examiner continues to assert that the King *et al.* reference discloses an apparatus comprising "discriminator means (e.g., video camera, 208a, Col. 6, lines 13-20) for discriminating PREs with a selected spectral signature from other light-scattering entities in the computer image, based on a comparison of a selected spectral characteristic of PREs and other light-scattering entities in the field determined over said spectral wavelengths" (final Office Action, second paragraph on page 4). The passage at col. 6, lines 13-20, is quoted below:

Detector 208a is preferably a two dimensional detector such as CCD array, image intensified CCD, vidicon or video camera. An optional image intensifier 208b, such as Hamamatsu V4170U, can be used in addition to detector 208a if the optical signal 116 is weak. The provided molecular tags preferably generate fluorescent optical signals, but may also generate time-resolved or nonlinear optical signals.

The Examiner further notes, in the last sentence of the first paragraph on page 7 of the Office action that "Alternatively, the video camera is the discriminating means (as stated in the Office action) because it discriminates PREs from other light scattering entities.

The Applicants have reviewed the above passage cited by the Examiner, but fail to find any teaching or suggestion in the described CCD array of a device that performs the recited functions of the claimed discriminator means. In specific, nowhere can the Applicants find in the cited passage any teaching or suggestion of a CCD array that functions to:

(i) compare a selected spectral characteristic of PREs and other light-scattering entities in the field determined over different wavelengths, and

(ii) use such comparison to discriminate PREs with a selected spectral signature from other light scattering entities.

Further, it is not clear how a CCD array would perform these functions, and the Examiner has failed to provide evidence of any known CCD that would be capable of performing these functions. A CCD array, like any electronic light detector, simply converts photon events to electrical signals that can be displayed or further processed by an electronic processor in a variety of ways.

In response to the applicants' arguments, and presumably intended as an alternative basis for arguing that the King *et al.* references discloses the claimed discriminator means, the Examiner presents the following group of statements in the top paragraph of page 7 of the Office action:

Statement 1: "King *et al.* specifically teaches that the optical signal is detected and the resulting pattern of light and dark pixels may be analyzed by a computer appropriate for analyzing such patterns. (col. 4, lines 53-55)."

Statement 2: "King *et. al.* also teaches that that the different frequencies and light intensities may be utilized to result in the maximum optical signal from the molecular tags, in such a way that the evanescent field can excite only some of the pixels of the array (col. 5, lines 30-34);"

Statement 3: "King teaches that a computer is connected to the detection system for collecting and analyzing the data the data generated by the detection system (col. 5, lines 58-60)."

Statement 4: "Thus, King *et al.* teaches a computer for discriminating PREs from other light scattering entities in the computer image based on a comparison of selected spectral characteristics of PREs and other light scattering entities in the field.

With all due respect, there are two fundamental problems with the Examiner's argument. First, the Applicants note that the cited passages that are used to "construct" a disclosure of the claimed discriminator means are three relatively short passages taken from different paragraphs (and in the case of Statement 1, different

sections) of the King reference. What, it can be asked, connects these teachings other than the Examiner's hindsight reconstruction of the Applicants' claimed invention? The Examiner has failed to demonstrate that the three statements, standing apart as they do, would be connected by a person skilled in the art to disclose or suggest the claimed discriminator means.

A second, and more fundamental objection, is that the first three statements do not, in fact, logically lead to the conclusion reached in Statement 4, even if they were presented in the patent as part of a single concept. Considering each of the three statements, and the context in which they appear in the King *et al.* reference:

Statement 1. Col. 4, lines 53-55 of the reference simply notes that the optical signal is analyzed by a device, e.g., a computer. There is no disclosure of what optical signal is analyzed (other than the fact that the optical signal consists of light and dark pixels, which would be true of any meaningful optical signal), nor what analysis is carried out on the signal.

Statement 2. Col. 5, lines 30-34 of the reference notes that the irradiating light beam is provided with the correct frequency and intensity properties to optimize the optical signal from molecular tags. Rather than suggesting a device that involves generating spectral features that can be analyzed by a discriminator, this passage suggests that the system is simply operated in a mode where the irradiating beam is optimized to a given frequency and intensity at which "one, some, or all of the pixels" of the array are excited. More particularly, for purposes of the present invention, the above quoted passage statement nowhere shows or suggests:

- (i) comparing a selected spectral characteristic of PREs and other light-scattering entities in the field determined over different wavelengths, and
- (ii) using such comparison to discriminate PREs with a selected spectral signature from other light scattering entities.

Statement 3. Col 5, lines 58-60 simply notes that a computer is connected to a detection system for electronically collecting and analyzing the data generated by the detection system. The same comments made with respect to Statement 1 apply

here: Nowhere does this passage indicate what optical signals are analyzed nor what analysis is carried out on the signal.

In summary, the Examiner has extracted three unrelated passages from King *et al.*, and strung them together to reach a conclusion that has no logical basis in the King disclosure.

Since King *et al.* does not teach the claimed discriminator means of claim 19, neither claim 19, nor any of claims 20-26, 28, and 29 dependent thereon, can be anticipated by the King *et al.* reference. Withdrawal of the rejection is therefore respectfully requested. Further, since the King *et al.* reference does not suggest the functions of the claimed discriminator means, the King *et al.* reference cannot render the claimed invention obvious.

III. Conclusions

In view of the foregoing, the applicants submit that the claims 19-26, 28 and 29 now pending in the application are in condition for allowance. A Notice of Allowance is therefore respectfully requested.

If in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is encouraged to call the undersigned at (650) 838-4410.

Respectfully submitted,
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